

HALLIBURTON

iCem[®] Service

LARAMIE ENERGY LLC-EBUS

For: Aaron Duncan

Date: Wednesday, February 28, 2018

Gunderson 994-13-07W Surface PJR

API# 05-077-10544-00

Sincerely,

Grand Junction Cement Engineering

2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Graph Label	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	PS Pump Press (psi)	Pump Stg Tot (bbl)	Comments
Event	1	Call Out	2/28/2018	10:30:00	USER					
Event	2	Pre-Convoy Safety Meeting	2/28/2018	12:00:00	USER					JSA COMPLETE
Event	3	Crew Leave Yard	2/28/2018	12:30:00	USER					
Event	4	Arrive At Loc	2/28/2018	14:00:00	USER					RIG RUNNING CASING, COMPANY HAS MSA
Event	5	Assessment Of Location Safety Meeting	2/28/2018	15:30:00	USER					1 ELITE, 1 660
Event	6	Pre-Rig Up Safety Meeting	2/28/2018	16:00:00	USER					JSA COMPLETE
Event	7	Rig-Up Equipment	2/28/2018	16:30:00	USER					
Event	8	Other	2/28/2018	18:09:50	USER					WATER TEST: PH-6.8, CL-0, TEMP -60, 8 5/8 23# CASING SET @ 1545, S.J.- 44.7, HOLE - 11, MUD # 9.2, TD - 1555
Event	9	Pre-Job Safety Meeting	2/28/2018	19:25:00	USER					
Event	10	Start Job	2/28/2018	19:40:26	COM5					
Event	11	Prime Pumps	2/28/2018	19:41:04	COM5	8.33	2.10	18.00	2.00	FRESH WATER
Event	12	Test Lines	2/28/2018	19:43:33	COM5	8.33	0.00	3130.0	0.0	3130 PSI

0

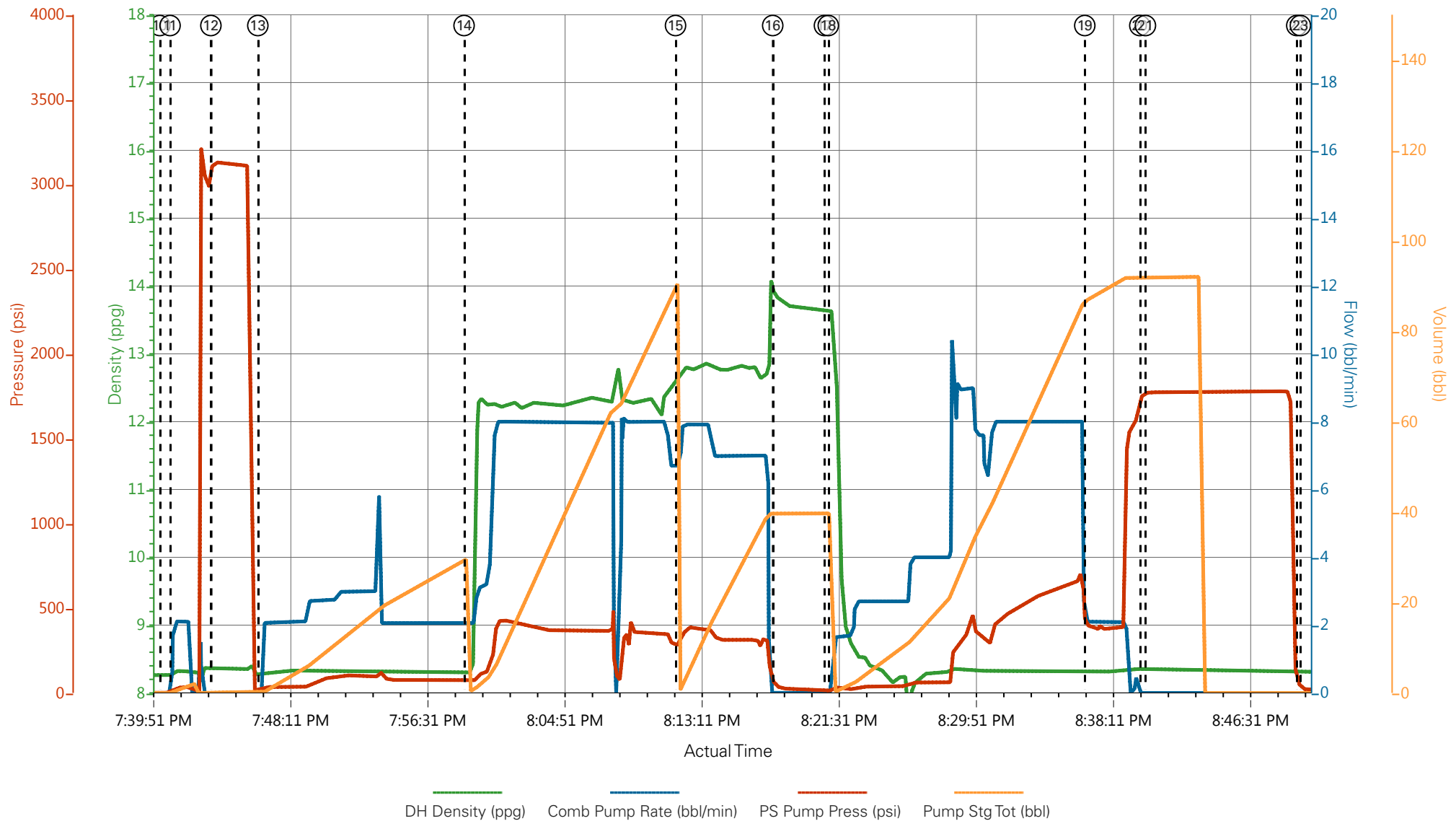
Event	13	Pump Spacer 1	2/28/2018	19:46:24	COM5	8.33	3.00	108.00	30.0	FRESH WATER, ONLY PUMPED 30 BBLS PER OSR. ENOUGH TO ESTABLISH RETURNS AND MIX UP TUB.
Event	14	Pump Lead Cement	2/28/2018	19:58:56	COM5	12.3	8	360.0	86.3	197 SKS, 12.3 PPG, 2.46 FT3/SK, 14.71 GAL/SK
Event	15	Pump Tail Cement	2/28/2018	20:11:47	COM5	12.80	7.00	320.0	42.3	109 SKS, 12.8 PPG, 2.18 FT3/SK, 12.11 GAL/SK
Event	16	Shutdown	2/28/2018	20:17:41	COM5					TO WASH UP TUB AND DROP TOP PLUG
Event	17	Drop Top Plug	2/28/2018	20:20:50	COM5					AWAY
Event	18	Pump Displacement	2/28/2018	20:21:04	COM5	8.33	8.0	642	95.4	FRESH WATER, PUMPED FIRST 10 BBLS OUT OF MIX TUB TO CLEAN UP
Event	19	Slow Rate	2/28/2018	20:36:39	USER	8.33	2.00	395.00	85.0	SLOW RATE TO BUMP PLUG
Event	20	Bump Plug	2/28/2018	20:40:00	COM5	8.33	2.00	401.0	95.4	PLUG BUMPED
Event	21	Other	2/28/2018	20:40:21	USER	8.33	0.00	1776.0	95.4	TESTED CASING FOR 10 MIN AT 1776 PSI, TEST GOOD
Event	22	Check Floats	2/28/2018	20:49:32	USER					FLOATS HELD 1 BBL BACK TO TRUCK
Event	23	End Job	2/28/2018	20:49:46	COM5					GOOD CIRCULATION THROUGHOUT JOB NO PIPE MOVEMENT, 30 BBLS GOOD CEMENT TO SURFACE
Event	24	Post-Job Safety Meeting (Pre Rig-Down)	2/28/2018	21:00:00	USER					JSA COMPLETE
Event	25	Rig Down Lines	2/28/2018	21:20:00	USER					
Event	26	Crew Leave Location	2/28/2018	22:30:00	USER					THANK YOU FOR USING HALLIBURTON CEMENT, JAMES LEIST AND CREW

iCem® Service

(v. 4.2.393)

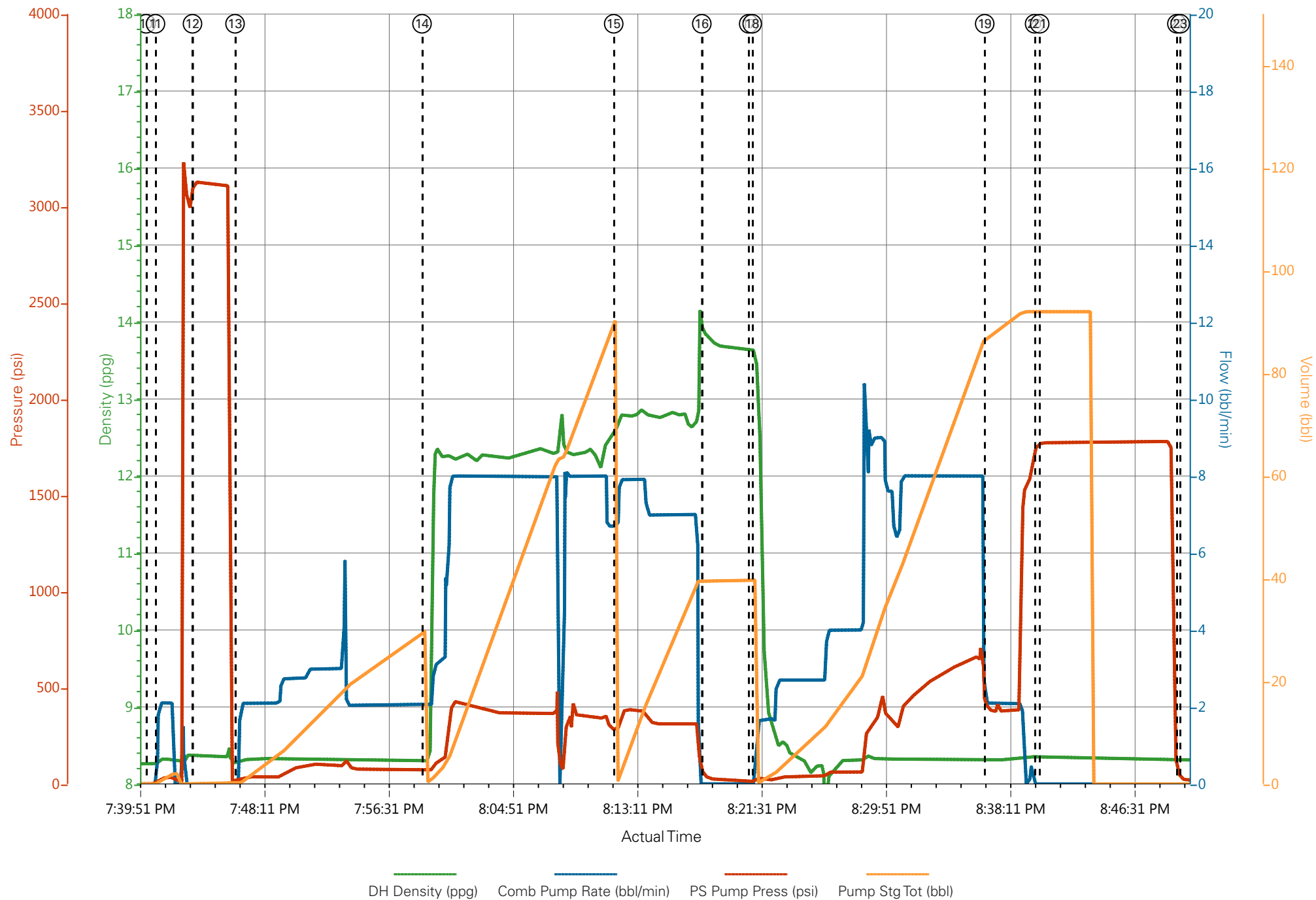
Created: Wednesday, February 28, 2018

LARAMIE - GUNDERSON 994-13-07W - 8 5/8 SURFACE CASING



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|---|--------------------------|---------------------|---|------------------------|
| ① Call Out | ⑦ Rig-Up Equipment | ⑬ Pump Spacer 1 | ⑲ Slow Rate | 25 Rig Down Lines |
| ② Pre-Convoy Safety Meeting | ⑧ Other | ⑭ Pump Lead Cement | 20 Bump Plug | 26 Crew Leave Location |
| ③ Crew Leave Yard | ⑨ Pre-Job Safety Meeting | ⑮ Pump Tail Cement | 21 Other | |
| ④ Arrive At Loc | ⑩ Start Job | ⑯ Shutdown | 22 Check Floats | |
| ⑤ Assessment Of Location Safety Meeting | ⑪ Prime Pumps | ⑰ Drop Top Plug | 23 End Job | |
| ⑥ Pre-Rig Up Safety Meeting | ⑫ Test Lines | ⑱ Pump Displacement | 24 Post-Job Safety Meeting (Pre Rig-Down) | |

LARAMIE - GUNDERSON 994-13-07W - 8 5/8 SURFACE CASING



HALLIBURTON

iCem[®] Service

LARAMIE ENERGY LLC-EBUS

For: Aaron Duncan

Date: Saturday, March 03, 2018

Gunderson 994-13-07W Production PJR

API# 05-077-10544-00

Sincerely,

Grand Junction Cement Engineering

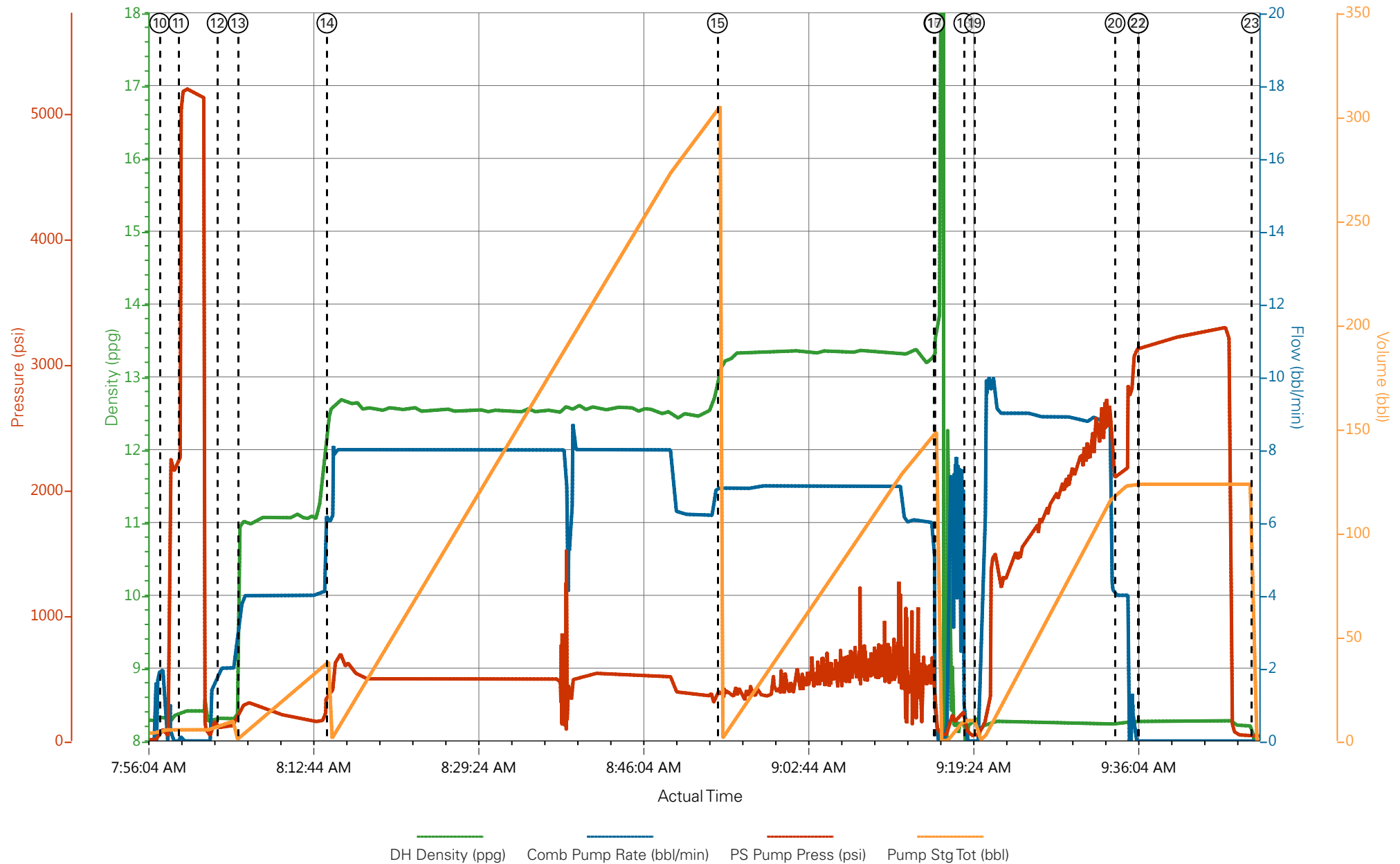
2.0 Real-Time Job Summary

2.1 Job Event Log

Type	Seq. No.	Graph Label	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	PS Pump Press (psi)	Pump Stg Tot (bbl)	Comments
Event	1	Call Out	3/3/2018	00:45:00	USER					
Event	2	Pre-Convoy Safety Meeting	3/3/2018	03:30:00	USER					
Event	3	Crew Leave Yard	3/3/2018	04:00:00	USER					
Event	4	Arrive At Loc	3/3/2018	05:30:00	USER					RIG RUNNING CASING, CIRCULATED 650 PSI @ 10 BBLs/MIN
Event	5	Assessment Of Location Safety Meeting	3/3/2018	05:45:00	USER					
Event	6	Pre-Rig Up Safety Meeting	3/3/2018	06:00:00	USER					JSA COMPLETE
Event	7	Rig-Up Equipment	3/3/2018	06:10:00	USER					1 ELITE, 1 660 , 2 SILOS
Event	8	Pre-Job Safety Meeting	3/3/2018	07:30:00	USER					JSA COMPLETE
Event	9	OTHER	3/3/2018	07:30:01	USER					TP- 7692 4.5, 11.6#, TD- 7972, SJ- 86.15, HOLE- 7 7/8, MUD# - 9.5, 8 5/8 SURFACE CASING SET @ 1545
Event	10	Start Job	3/3/2018	07:57:30	COM5					
Event	11	Test Lines	3/3/2018	07:59:25	COM5	8.33	0.00	5200.00	5.4	5200 PSI, TEST GOOD
Event	12	Drop Bottom Plug	3/3/2018	08:03:18	USER					AWAY
Event	13	Pump Spacer 1	3/3/2018	08:05:25	COM5	11.00	4.00	261.00	2.0	TUNED SPACER 11 PPG, 4.68 FT3/SK, 31.9 GAL/SK
Event	14	Pump Lead Cement	3/3/2018	08:14:23	COM5	12.50	8.00	500	298.2	NEOCEM 12.5 PPG, 1.94 FT3/SK, 9.6 GAL/SK

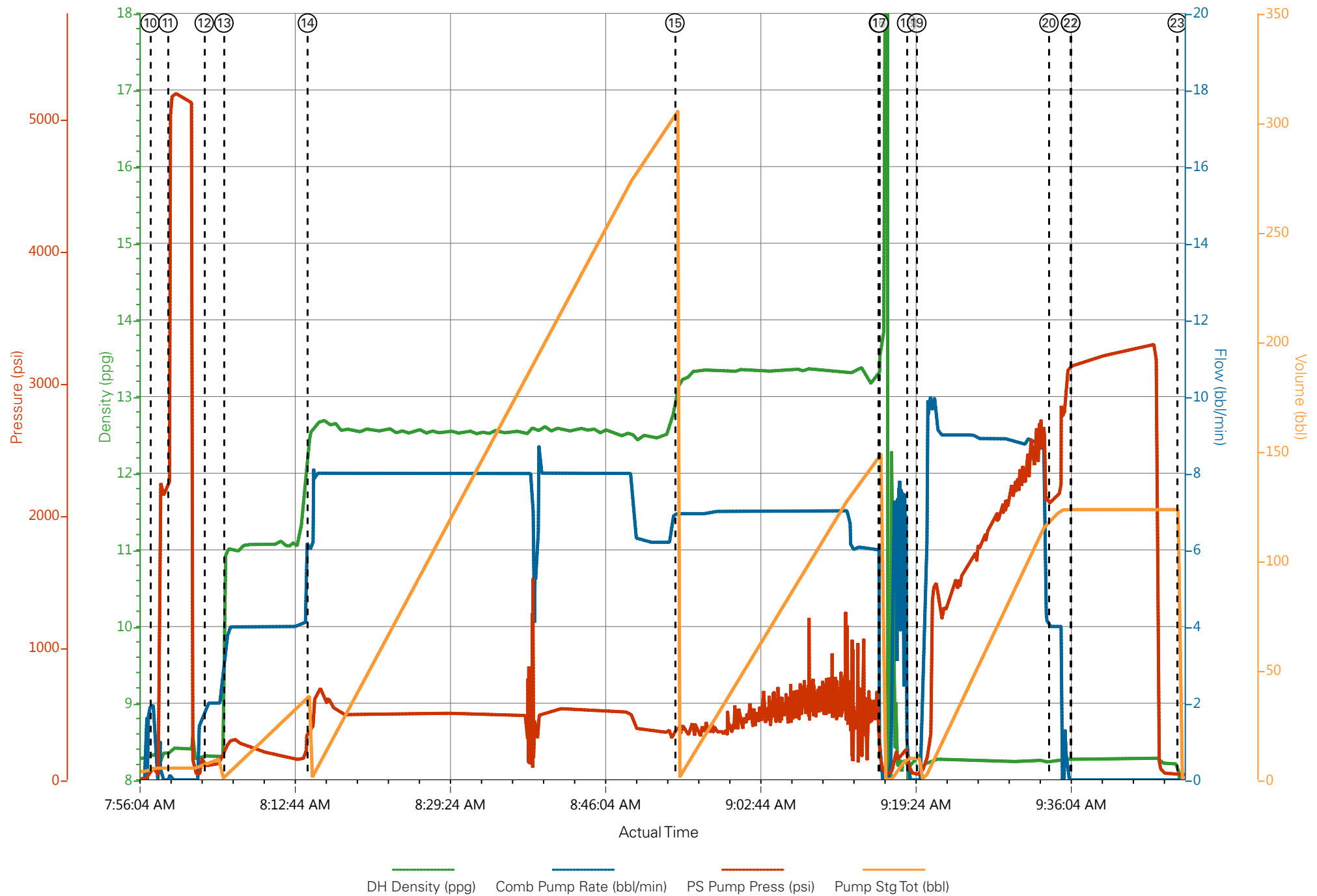
Event	15	Pump Tail Cement	3/3/2018	08:53:51	COM5	13.30	7.00	500	129.0	THERMACEM 13.3 PPG, 1.73 FT3/SK, 7.81 GAL/SK
Event	16	Shutdown	3/3/2018	09:15:42	USER					TO CLEAN LINES AND DROP TOP PLUG
Event	17	Clean Lines	3/3/2018	09:15:47	COM5					TO CELLAR
Event	18	Drop Top Plug	3/3/2018	09:18:44	COM5					AWAY
Event	19	Pump Displacement	3/3/2018	09:19:49	COM5	8.33	9.00	2540	122.1	FRESH WATER WITH 1 GAL MMCR, 5 GAL CLA WEB, 5 GAL BIOCID (CUSTOMER SUPPLIED)
Event	20	Slow Rate	3/3/2018	09:34:01	USER	8.33	4.00	2098.00	112.0	TO BUMP PLUG
Event	21	Bump Plug	3/3/2018	09:36:20	COM5	8.33	0.00	2140.0	122.1	PLUG BUMPED
Event	22	CASING TEST	3/3/2018	09:36:21	USER			3139.00		TESTED CASING TO 3140 PSI FOR 10 MINS, TEST GOOD
Event	23	End Job	3/3/2018	09:47:48	COM5					GOOD RETURNS THROUGHOUT JOB, 22 BBLS CMT TO SURFACE
Event	24	Post-Job Safety Meeting (Pre Rig-Down)	3/3/2018	09:50:00	USER					JSA COMPLETE
Event	25	Rig-Down Equipment	3/3/2018	10:45:00	USER					
Event	26	Crew Leave Location	3/3/2018	11:30:00	USER					THANK YOU FOR USING HALLIBURTON CEMENT, JAMES LEIST AND CREW

LARAMIE - GUNDERSON 994-13-07W - 4.5 PRODUCTION CASING



- | | | | | |
|---|--------------------------|--------------------|---|------------------------|
| ① Call Out | ⑦ Rig-Up Equipment | ⑬ Pump Spacer 1 | ⑰ Pump Displacement | 25 Rig-Down Equipment |
| ② Pre-Convoy Safety Meeting | ⑧ Pre-Job Safety Meeting | ⑭ Pump Lead Cement | 20 Slow Rate | 26 Crew Leave Location |
| ③ Crew Leave Yard | ⑨ OTHER | ⑮ Pump Tail Cement | 21 Bump Plug | |
| ④ Arrive At Loc | ⑩ Start Job | ⑯ Shutdown | 22 CASING TEST | |
| ⑤ Assessment Of Location Safety Meeting | ⑪ Test Lines | ⑰ Clean Lines | 23 End Job | |
| ⑥ Pre-Rig Up Safety Meeting | ⑫ Drop Bottom Plug | ⑱ Drop Top Plug | 24 Post-Job Safety Meeting (Pre Rig-Down) | |

LARAMIE - GUNDERSON 994-13-07W - 4.5 PRODUCTION CASING



Job Information

Request/Slurry	2457351/1	Rig Name	H&P 522	Date	28/FEB/2018
Submitted By	Connor Matthews	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Laramie Energy	Location	Garfield	Well	Gunderson 994-13-07W

Well Information

Casing/Liner Size	4.5 in	Depth MD	8006 ft	BHST	113°C / 236°F
Hole Size	7.875 in	Depth TVD	7607 ft	BHCT	76°C / 169°F
Pressure	4625 psi				

Drilling Fluid Information

Mud Supplier Name	Baroid	Mud Trade Name	BARADRIL-N	Density	9.9 lbm/gal
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Cement Information - Lead Design



Conc	UOM	Cement/Additive	Sample Type	Sample Date	Lot No.	Cement Properties		
						Slurry Density	12.5	lbm/gal
						Slurry Yield	1.941	ft3/sack
						Water Requirement	9.623	gal/sack
						Total Mix Fluid	9.623	gal/sack
						Water Source	Fresh Water	
						Water Chloride		

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Operation Test Results Request ID 2457351/1

Thickening Time - ON-OFF-ON

01/MAR/2018

Test Temp (degF)	Pressure (psi)	Reached in (min)	30 Bc (hh:mm)	50 Bc (hh:mm)	70 Bc (hh:mm)	Start Bc	Stirring before stop (mins)	Static Period (min)	Peak reading (BC)	Termination time (hh:mm)	Termination Bc
169	4625	48	3:19	4:33	5:01	27	58	15	25	9:47	94

Total sks = 863

CS0523, Trailer 8678, 431.5 sks

CS0524, Trailer 1656, 431.5 sks

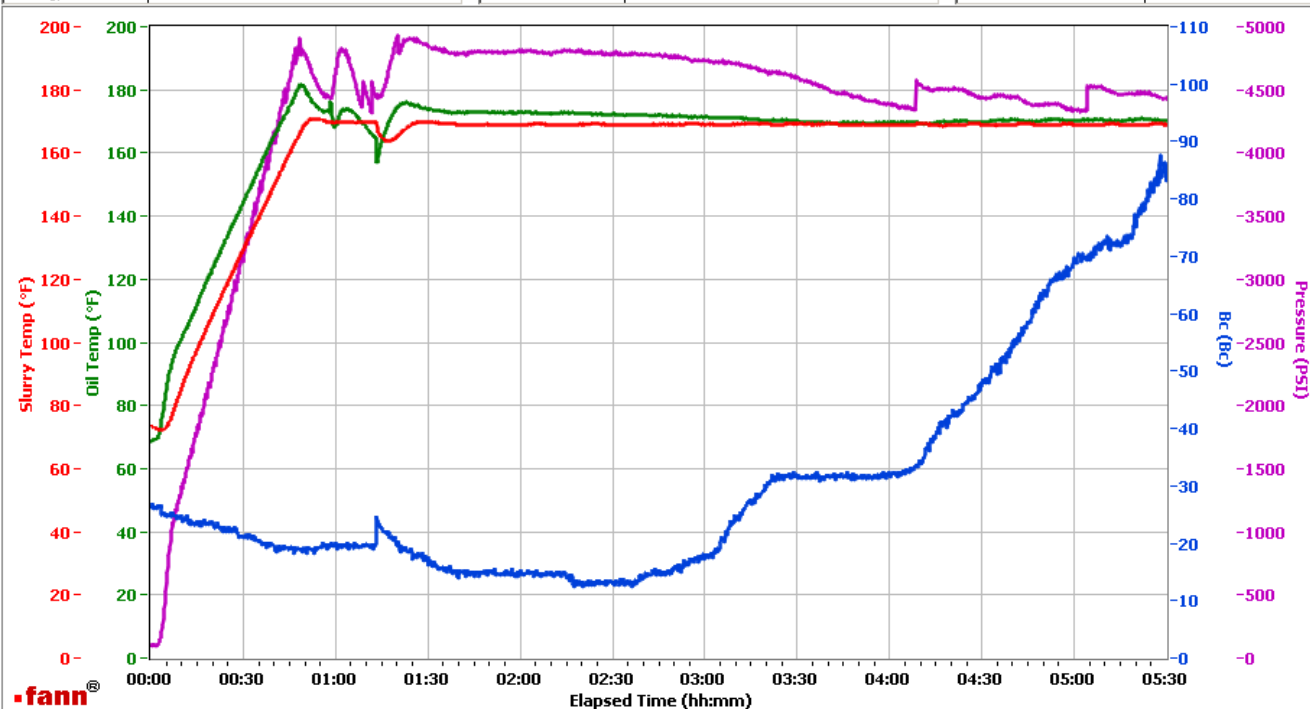
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Grand Junction Colorado

Fields	Values
Project Name	2457351-1 LARAMIE BULK PRODUCTION LE
Test ID	35294279 - TT
Request ID	2457351-1
Tested by	CT
Customer	LARAMIE ENERGY
Well No	GUNDERSON 994-13-07W
Rig	H&P 522
Casing/Liner Size	4.5 INCH

Fields	Values
Job Type	PRODUCTION CASING
Cement Type	HOLCIM TYPE I-II
Cement Weight	Standard
Test Date	03/01/18
Test Time	06:50 AM
Temp. Units	degF
Pressure Units	PSI
SW Version	2.1.0.507

Events	Results
30.00 Bc	03h:19m
40.00 Bc	04h:15m
50.00 Bc	04h:33m
70.00 Bc	05h:01m
100.00 Bc	NaN
00h:30m	20.95
01h:00m	19.77
01h:30m	15.99



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Comments CS0523, TRAILER 8678, 431.5 SKS - CS0524, TRAILER 1656, 431.5 SKS

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HALLIBURTON

Rockies, Grand Junction

Lab Results- Tail

Job Information

Request/Slurry	2457352/1	Rig Name	H&P 522	Date	28/FEB/2018
Submitted By	Connor Matthews	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Laramie Energy	Location	Garfield	Well	Gunderson 994-13-07W

Well Information

Casing/Liner Size	4.5 in	Depth MD	8006 ft	BHST	113°C / 236°F
Hole Size	7.875 in	Depth TVD	7607 ft	BHCT	76°C / 169°F
Pressure	4625 psi				

Drilling Fluid Information

Mud Supplier Name	Baroid	Mud Trade Name	BARADRIL-N	Density	9.9 lbm/gal
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Cement Information - Tail Design



<u>Conc</u>	<u>UOM</u>	<u>Cement/Additive</u>	<u>Sample Type</u>	<u>Sample Date</u>	<u>Lot No.</u>	<u>Cement Properties</u>	
						Slurry Density	13.3 lbm/gal
						Slurry Yield	1.733 ft3/sack
						Water Requirement	7.799 gal/sack
						Total Mix Fluid	7.799 gal/sack
						Water Source	Field (Fresh) Water
						Water Chloride	N/A

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Operation Test Results Request ID 2457352/1

Thickening Time - ON-OFF-ON

01/MAR/2018

Test Temp (degF)	Pressure (psi)	Reached in (min)	30 Bc (hh:min)	50 Bc (hh:min)	70 Bc (hh:min)	100 Bc (hh:min)	Start Bc	Stirring before stop (mins)	Static Period (min)	Peak reading (BC)
169	4625	48	3:16	3:20	3:21	3:24	22	58	15	25

Total sks = 419

CS0528 TR#2878 419 SKS

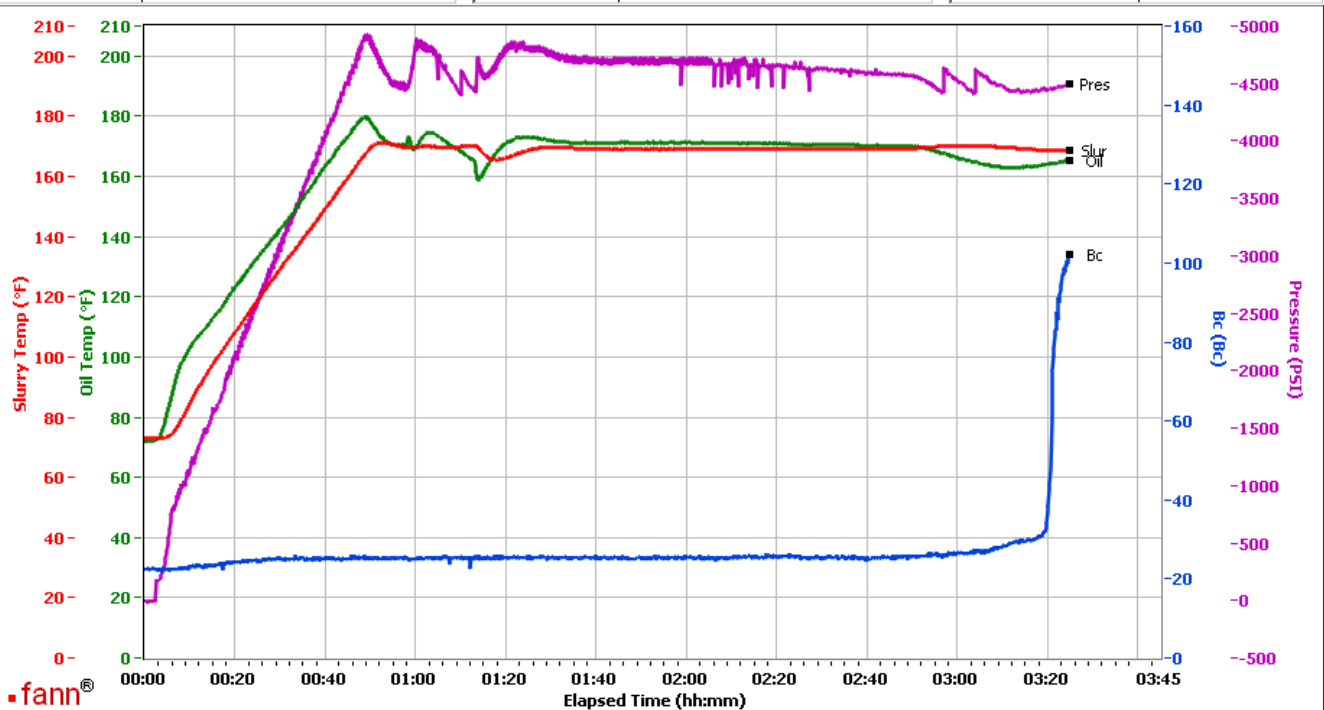
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Grand Junction Colorado

Fields	Values
Project Name	GJ2457352-1 LARAMIE PRODUCTION BULK
Test ID	35294282
Request ID	GJ2457352-1
Tested by	DEBA
Customer	LARAMIE ENERGY
Well No	GUNDERSON 994-13-07W
Rig	H&P 522
Casing/Liner Size	4.5"

Fields	Values
Job Type	PRODUCTION CASING
Cement Type	MOUNTAIN G
Cement Weight	Standard
Test Date	03/01/18
Test Time	12:23 PM
Temp. Units	degF
Pressure Units	PSI
SW Version	2.1.0.507

Events	Results
30.00 Bc	03h:16m
40.00 Bc	03h:20m
50.00 Bc	03h:20m
70.00 Bc	03h:21m
100.00 Bc	03h:24m
00h:30m	25.05
01h:00m	24.89
01h:30m	25.42



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Comments CS0528 TR#2878 419 SKS

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